IN THE CLAIMS

Please amend the claims as shown below.

1. (Currently Amended) Data transmission apparatus for transmitting data from a plurality of data streams over a data channel, the apparatus comprising:

a data stream control memory for storing a scheduling variable for each data stream, each scheduling variable being indicative of a scheduled transmission timing for that data stream;

a clock for maintaining a current timing indication;

a data stream selector for, at substantially constant time intervals, comparing the scheduling variables stored in the memory and selecting the scheduling variable indicative of the earliest scheduled transmission timing and, if that scheduled transmission timing is not earlier than the current timing, generating an indication of the data stream corresponding to the selected scheduling variable and incrementing the selected scheduling variable; and

a data transmission unit for receiving the indication of the data stream and transmitting an amount of data from that data stream over the data channel.

2. (Original) Data transmission apparatus as claimed in claim 1, wherein:

the data stream control memory stores an increment variable for each data stream; and

to increment the selected scheduling variable the data stream selector adds the selected scheduling variable to the increment variable for the corresponding data stream.

3. (Original) Data transmission apparatus as claimed in claim 1, comprising at least one data memory for storing the data streams, and wherein the data transmission unit retrieves the amount of data from the data memory before transmitting it over the data channel.

4. (Original) Data transmission apparatus as claimed in claim 3, wherein:

the data stream control memory stores a pointer variable for each data stream; and

the data transmission unit retrieves the amount of data from the location in the data memory indicated by the pointer variable of the selected data stream.

5. (Previously Presented) Data transmission apparatus as claimed in claim 4, wherein on selecting a data stream the data stream selector increments the pointer variable for that data stream.

6. (Cancelled)

7. (Original) Data transmission apparatus as claimed in claim 1, comprising a data transmission controller operable to override the data stream selector and provide to the data transmission unit an indication of data stream from which to transmit an amount of data.

8. (Original) Data transmission apparatus as claimed in claim 7, wherein the data transmission unit is responsive to the indication of a data stream provided by the data transmission controller to next transmit data from that data stream.

9. (Original) Data transmission apparatus as claimed in claim 7, wherein the data transmission controller is operable to disable periodic comparison of the scheduling variables by the data stream selector.

10. (Original) Data transmission apparatus as claimed in claim 7, wherein the data stream control memory stores an increment variable for each data stream;

to increment the selected scheduling variable the data stream selector adds the selected scheduling variable to the increment variable for the corresponding data stream; and

the data transmission controller is operable to vary the increment variables.

11. (Original) Data transmission apparatus as claimed in claim 1, provided on a single integrated circuit.

12. (Original) Data transmission apparatus as claimed in claim 1, further comprising a central processing unit.

13. (Original) Data transmission apparatus as claimed in claim 12, provided on a single integrated circuit, wherein the central processing unit is provided on the integrated circuit.

14. (Original) Data transmission apparatus as claimed in claim 12, wherein the period between successive comparisons of the scheduling variables is programmable by means of the central processing unit.

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15. (Original) Data transmission apparatus as claimed in claim 12, wherein the speed of the said clock is variable by means of the central processing unit.

16. (Original) Data transmission apparatus as claimed in claim 1, wherein the amount of data is 384 bits.

17. (Original) Data transmission apparatus as claimed in claim 1, wherein the amount of data is transmitted together with header information.

18. (Original) Data transmission apparatus as claimed in claim 1, wherein the data transmission unit transmits the amount of data in the form of an ATM cell.